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SetBack U

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SetBack U

A Major Qualifying Project report
submitted to the faculty of the
WORCESTER POLYTECHNIC INSTITUTE
in partial fulfillment of the requirements for the
Degree of Bachelor of Science in
Interactive Media and Game Development
by
Ben Ouimet and Nicholas Sitar

Brian Moriarty, IMGD Professor of Practice, Advisor

Abstract

Setback U is an “empathy game” designed to aid the understanding of mental disorders common among college students. It provides players a safe, controlled context in which to experience the frustration and other negative effects associated with such disorders, and suggests ways to manage these emotions in an appropriate manner.

Acknowledgements

The project team would like to thank Brian Moriarty for being our advisor and providing an incredible amount of help throughout the process. We would also like to thank all of our play testers, without whom we could not have made the game as good as it has become.

For their invaluable advice, we thank Michael Sitar and Caroline Ouimet. Finally, we thank Grace Holliday and Samantha Stadlander for encouraging us to take our concept and turn it into an MQP.

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Concept

It was decided to implement the project as a board game, instead of a digital game, to allow more direct interaction between players. In our original design, mental disorders were objectified as little “monsters” to make them easier to manipulate and relate to than abstract concepts. The idea was to have tokens representing various disorders going around a board similar to *Monopoly*. Different end goals were considered, such as every disorder having a unique win condition. We finally settled on the goal of being the healthiest player at the end of the game. A number of concepts persisted throughout the design process, such as cards that can be used to aid or hinder opponents, aspects of competition, and using decks of cards to influence your mental health score. After considering several disorders and possible interactions, we decided to include just five: depression, general anxiety, social anxiety, ADHD and alcohol abuse.

The game, which we titled *SetBack U*, was targeted at college students. We wanted our peers to experience the ups and downs experienced by classmates suffering from these disorders in the “safe” context of a game, demonstrating that life with these disorders has both positive and negative aspects, and that just because things don’t always work out, there is always the possibility of improvement.

Gameplay

From the beginning, the game was intended to be played by a small group of people. Each player would be randomly assigned a mental disorder that would affect their gameplay in specific ways. The first ideas involved a circular game board with spaces representing the passage of a year. Players would draw cards from a deck that would positively or negatively affect their mental health. The win condition involved traveling around the board a certain number of times while maintaining a minimum threshold of positive mental health. While we were happy with the potential aesthetic of this design, the endgame seemed arbitrary, and did little to serve our experience goal for the game.

As we developed special mechanics for each of the disorders, we completely revamped the board design and the endgame. Since our target audience was college students, we changed the board to represent an academic year with a well-defined finishing point (graduation). This made it easier to establish a plausible win condition.

Over the course of development we made several changes to how the disorders functioned. We fleshed out their individual mechanics, encapsulating the effects of each disorder on a small mat and a separate deck of cards to draw from on each turn.

The early design of the disorders involved many effects that would only trigger when a player had negative mental health. During playtesting, it became clear that this would be a problem, as the decks also included a substantial number of mental health-increasing cards. This prompted us to redesign the disorders and eliminate the mats, relying instead on a unique deck for each disorder. While all decks have the same number of cards, the cards in each deck are uniquely related to a specific disorder. For example, the alcoholic disorder deck includes an “Attend an AA Meeting” card that does not appear in the other decks. There are few duplicate cards, even within the same decks.

Disorders

The first disorders we considered were social anxiety, paranoia, general anxiety, depression, multiple personality disorder, schizophrenia and bipolar disorder. Early in development, the latter three were discarded because they were too difficult for many players to understand, and general substance abuse and autism became the fifth and sixth disorders in the game. After much discussion, paranoia was replaced by ADHD, and autism was dropped due to our inability to devise a good mechanic to represent it. We also changed substance abuse to a more specific disorder, alcohol abuse.

We wanted the disorders to have player-interaction mechanics that would model the nature of each disorder. The first mechanic we devised was for social anxiety, which relates to other players in close physical proximity on the board. Depression was modeled by having the player occasionally miss a turn. Alcohol abuse had its modifiers delayed by a turn, and ADHD players would be more influenced by the cards of other players than their own. General anxiety has no special interactions because it represents everyone, the baseline for the game.

After some play testing, ADHD was toned down to limit its influence to a single player. Alcohol abuse, social anxiety and depression effects were changed to depend on low mental health. Eventually all of these global mechanics were replaced by cards with similar effects.

General anxiety

General anxiety affects around 3% of all adults, including a significant number of college students, who must deal with the stressors of an academic environment. The disorder is characterized by excessive worry about everyday problems, which can lead to difficulties in carrying out tasks. We modeled this disorder with cards that cause negative effects related to common activities, such as making friends or attending classes.

Social anxiety

Social anxiety is characterized by a fear of being judged by your peers. While most students experience some anxiety from social activities (speaking in front of a class, for example), those suffering from social anxiety may worry for days or even weeks in advance. The cards in this deck involve social situations, such as dealing with roommates or asking a TA questions after class. The special cards move the player based on their position relative to other players.

Depression

Depression is the most common mental disorder we modeled in the game, with nearly 7% of all United States citizens suffering from it annually. It involves many symptoms, ranging from empty feelings and loss of interest in activities to irritability and difficulty in concentrating. The most severe symptom is the one most people associate with it: suicidal thoughts and tendencies, which we needed to address in the game. The depression deck involves activities likely to affect a player's mood, such as not being invited to the movies with friends, or getting a new pet. The special cards model the effect of "days that don't happen" because of the disorder.

ADHD

Many students with Attention Deficit / Hyperactivity Disorder (ADHD) are diagnosed as children due to chronic difficulties with inattention, hyperactivity, impulsiveness, or a combination of these. This disorder affects the sufferers' ability to manage time and focus on tasks, making coursework particularly difficult. The cards for ADHD involves activities requiring focus, such as studying and homework. The special cards affect the player's movement and health based on the proximity of others.

Alcohol abuse

Many students deal with alcohol abuse at one time or another. College drinking is very common, and about half of students who drink experiment with bingeing. This deck models the effects of drinking, or choosing not to drink. The special cards change your position on the board based upon your current mental health; negative values represent giving in to the temptation to abuse.

Board design

The original board design was a *Monopoly*-style ring with fifty-two spaces representing the weeks in a year, with certain spaces representing traditional breaks and holidays. Other spaces would have effects that varied from game to game to help keep things interesting. The board was designed this way because players would have to succeed at getting around the board a certain number of times, using a movement system that scaled as time went on rather than using dice or fixed movement.

The next iteration resulted from changing our target audience to college students, and from the realization that the original design would lead to games that would go on far too long to hold the attention of an average player. The board was changed to represent an average college career of four years, with an explicit beginning and ending. Each of the four quadrants of the board would represent one year. When players reached the end of a year, they would have to wait for the other players to also finish the year. There would be a specific deck for these summer month equivalents. We wanted the same number of spaces for each year, so we figured out how many spaces of the size we wanted could fit on a single quadrant of an 18x18 inch board. In this version, the card decks were also located on the board, and so placement of these without covering any spaces was taken into consideration.

Later, we devised a more flexible design using one to four 10x10 inch boards. Players could use a single board four times to simulate the years, or four boards could be arranged in any configuration to conveniently fit the available play space.

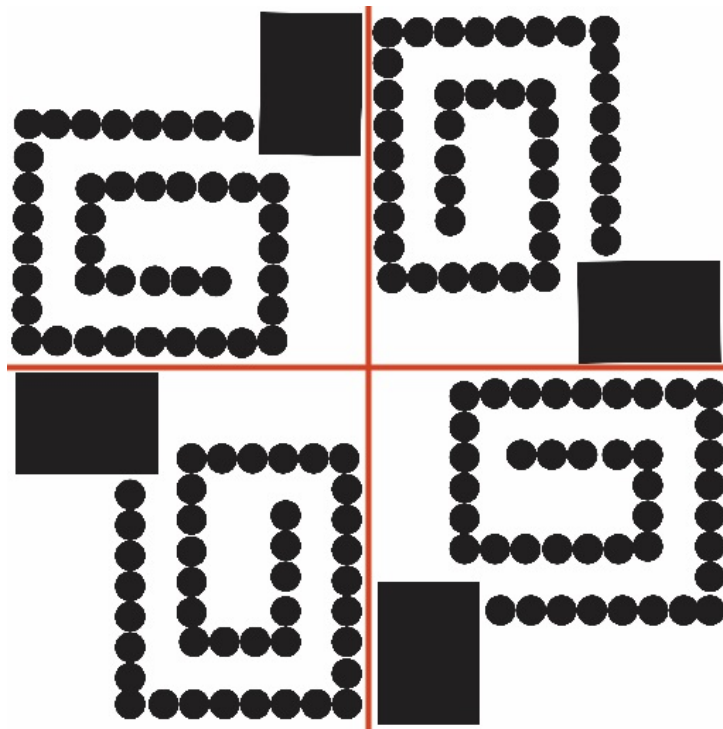


Figure 1. Flexible four-board configuration.

After some playtests with this board, it was decided that the it would still take too long for a single game to be played by our target demographic, so it was cut down to a single year with about the same number of spaces as two years from the previous version. “Exam” spaces were added to equalize player movement, insuring that no one would get too far behind or far ahead of anyone else (Figure 2).

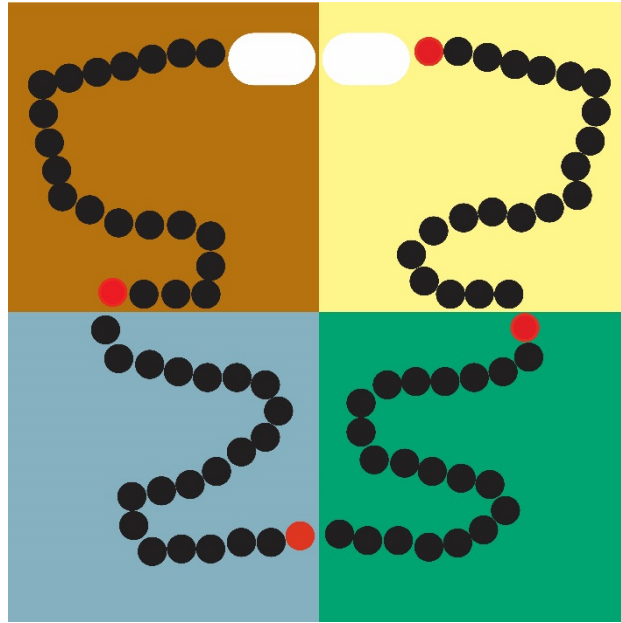


Figure 2. Modified single-year board.

Each of the four quadrants would represent one of the four seasons, and the art on the board would reflect this. The idea of spaces doing things was also briefly brought back into the game, with some spaces increasing mental health and others decreasing it. The exam spaces were changed to negatively affect mental health, so that entering them multiple times would cost more and more.

During these iterations, we tried to place the spaces in such a way that they were vaguely symmetrical and linear. At the same time, we didn't want players to presume any unwanted symbolism. For example, one of our early designs utilized a "star" layout, which we changed to avoid players attributing unintended meanings to the shape of the path (Figure 3).

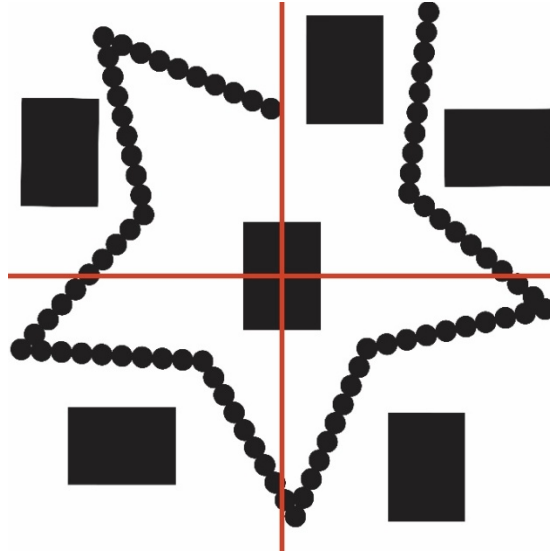


Figure 3. Rejected “star” board layout.

The last iteration of the board utilized a zigzag path, and reduced the total number of spaces from 84 to 76. Chutes that move players backward along the path were added as literal setbacks, together with jail, therapy, and hospital spaces that could move players either forward or backward via card effects (Figure 4).

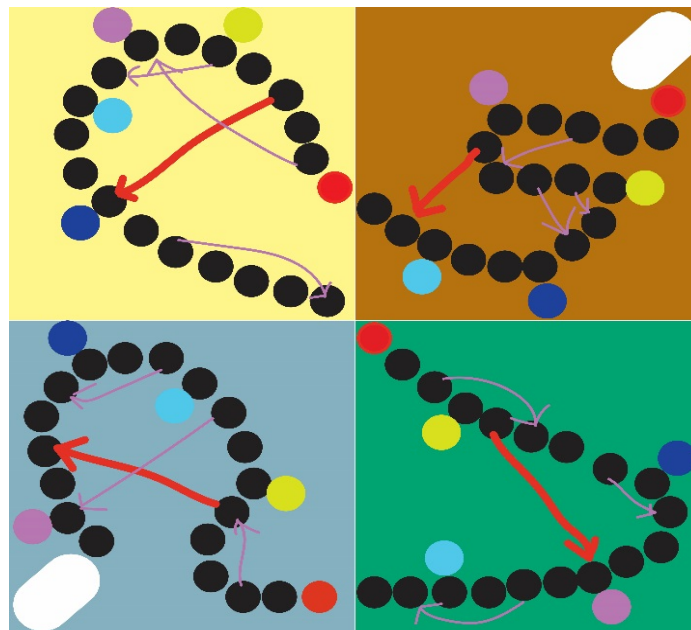


Figure 4. Final board layout.

Cards

At the start of the game, each player receives a deck of 36 cards. While the ratios of positive and negative cards and effective functionality are similar across the decks, the names and aesthetics of the cards uniquely reflect the disorder assigned to each player.

Each deck also includes three “Spite” and three “Good-Will” cards that allow players to interact with one another, adding an element of strategy to the game. These one-time-use cards can be played during any player’s turn.

Spite cards allow a player to reduce another player’s mental health, at the cost of reducing that player’s own mental health. The amount of reduction depends on the current mental health of the victims; a rule intended to discourage players from using them indiscriminately. In some cases playing a Spite cards will be counterproductive, but at other times they can present a significant comeback opportunity.

Good-Will cards function similarly to Spite cards, but the effects are reversed, allowing a player to increase another player’s mental health along with their own. These cards offer an interesting cooperative option for players who are behind, but are of limited effectiveness for winning players hoping to further their lead.

Playtesting

Early playtesting involved four players on the board with four years on it. When the first session ended after an hour and a half, we realized that the game was too long and contained many flaws and ambiguities that needed to be corrected. In particular, we noticed that the wording of our rules assumed that players possessed extensive knowledge of board game conventions. We switched from a single deck to a separate deck for each player, halved the number of spaces, changed the design of the mental health meters, and added rules to reduce movement disparities between players.

After a second playtest, we added the Spite/Good-Will cards, but found that we needed to clarify how and when they ought to be used. Also, the mechanics related to the social anxiety disorder was still difficult to understand, and the overall design contained cumulative effects which proved confusing to players.

The third playtest revealed the need to clarify other aspects of the design, such as turn order and the repeatability of exam spaces. We also needed to explicitly define concepts like “the player next to you” for some disorders. By this time, the duration was about where we wanted it, about 30 minutes for a three-person game. However, it was still too easy to tie the game, and the balance of effects seemed unduly biased towards the positive.

A fourth playtest prompted several more design changes, including an alternate start rule, the idea of paying mental health to enter an exam space, adding more spaces to the board path, and making cards not affect players occupying the end space. We also improved the wording of several cards, implemented a proper order of actions for turns, and added bonus extras for finishing first.

A particularly significant addition was a rule requiring decks to be reshuffled on every turn. This mitigated the problem of players drawing the same cards repeatedly, making the game monotonous. Other feedback resulted in an expansion of the mental health meters, and a rewrite of the cards to eliminate duplicate wording.

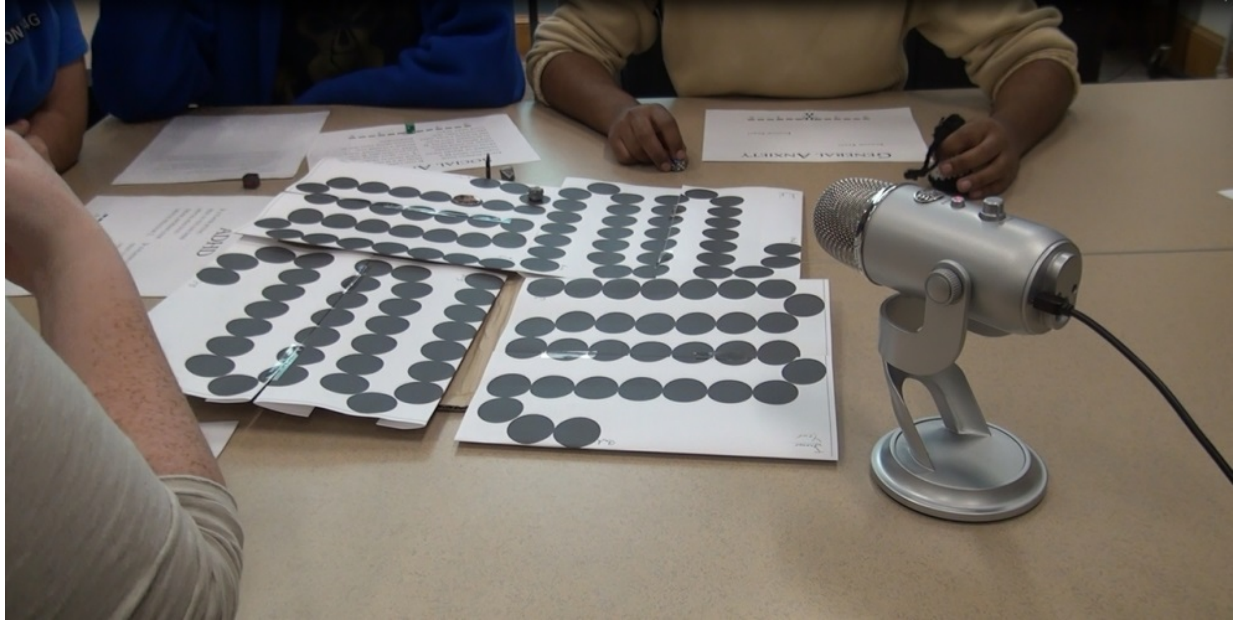


Figure 5. Early playtesting session.

Art

While the serious nature of the disorders being addressed in our game called for a dark tone, we did not want to depress our players.

The art for the game was largely inspired by the illustrations of cartoonists Edward Gorey and Charles Addams (Figures 6 and 7). The dark, yet relaxed and fun natures of these artists' work seemed to fit the nature of our project.



Figure 8. Sample card from a disorder deck.

Human characters are displayed with stick figure limbs, and animals are comically overweight or unhealthily scrawny. The soft, gentle nature of these illustrations helps to offset the dark topic of the game with a bit of whimsy.

Manufacturing

One of the main goals of our project was to be able to display a manufactured copy at Presentation Day, and announce that the game was available for commercial sale at The Game Crafter. The Game Crafter is essentially a one-stop shop for board game assets, with the ability to sell completed games in their online shop.

All art assets were designed to conform to Game Crafter's production templates. The board was designed to fit a quad-fold board, in such a way that the folds would not affect the gameplay. The disorder decks were sized to fit standard poker-sized cards. Player pieces were created with custom stickers affixed to plastic supports.

Postmortem

Many things worked well in this project. Our most notable success was the organization and distribution of work. By a few weeks into the project, we were able to clearly establish which tasks needed to be done in a given week, and who would be doing them. Our design process was also highly productive. While the basic game was conceived prior to the start of the project, playtest feedback demanded a lot of flexibility in design. Discussions about the disorders and game components were generally positive, and moved the project forward.

A few aspects of production could have worked better. One issue was time management. While not a huge problem, there were definitely points in the project when faster execution would have allowed us to explore more possibilities. In retrospect, we believe a third team member would have been very helpful because creating new playtest assets after every design change took a lot of time.

Our inefficiency relates to a larger issue regarding playtesting. The game could have been significantly improved with further testing. While all the test sessions we held were successful and useful, we did not have sufficient opportunity to test any single iteration of the design enough to thoroughly determine what needed to be changed.

Reflection

In general, we believe the final design of *SetBack U* achieves the goals we were striving for when we began. The game is simple and engaging, not too long, and has a competitive aspect, but still gives players a taste of what it feels like to live with mental disorders.

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Appendix A: Instructions

You play as a young college student with one of five mental disorders. You are trying to get through a year of college while staying as healthy as possible.

Setup

- At the beginning of the game, each player is randomly assigned a disorder deck. All decks should be shuffled before play begins.
- Mental health begins at 0, and is tracked via +1 and -1 tokens
- All player pieces should be placed on the space labeled “Start” on the board.
- Each player rolls a die. The player with the highest roll goes first. In the case of ties, the tying players roll again until one has a higher roll than the other.
- The winner is decided by who has the highest mental health when all players reach the end space.

Turn Order

- A turn is defined as Roll Die > Move > Draw Card.
- Movement is determined by rolling a pair of dice. Movement can be modified by cards.
- Players must stop at all red Exam spaces, even if their roll would normally move them past it.
- Under no circumstance (even card movement) can a player be moved backwards into a previous quadrant.
- If a player lands on a space at the top of a chute for any reason, they must travel backwards to the space at the bottom of the chute.

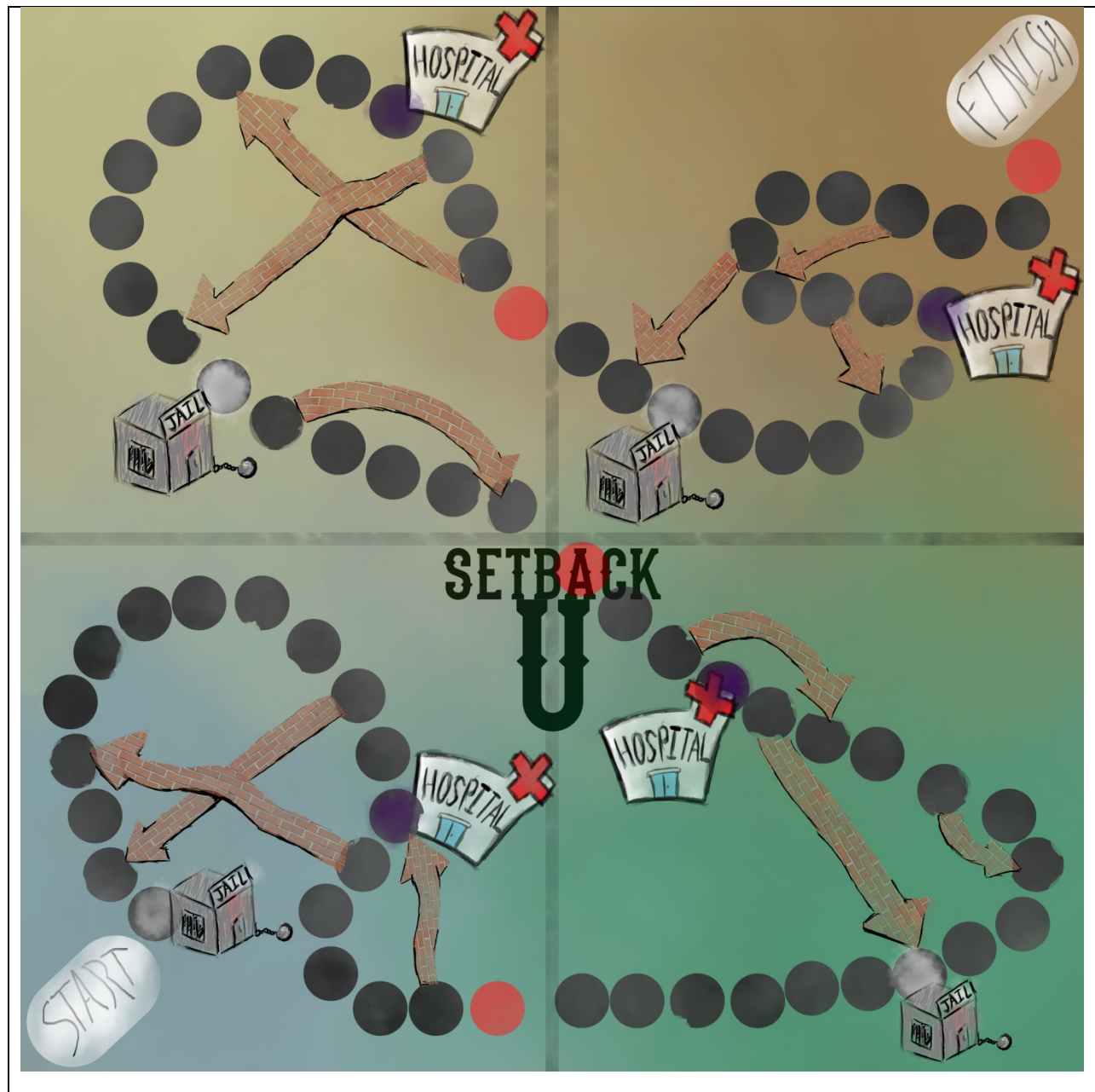
- At the end of their turn, each player draws a card from their deck, and immediately applies the effect of the card. The card is then placed on the bottom of the deck.

Endgame

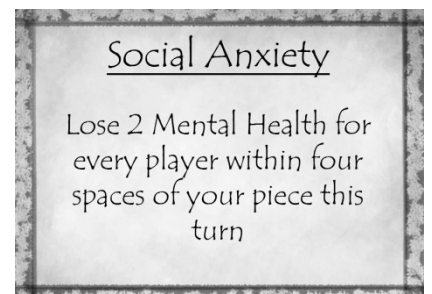
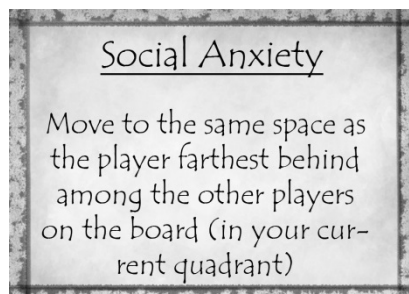
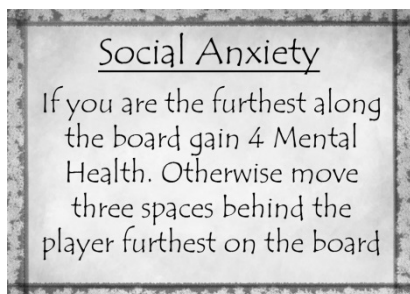
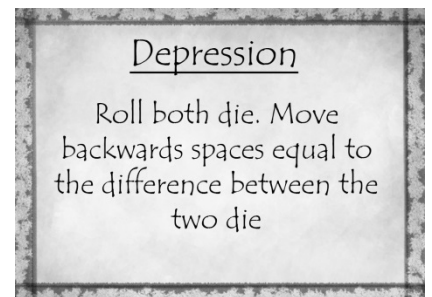
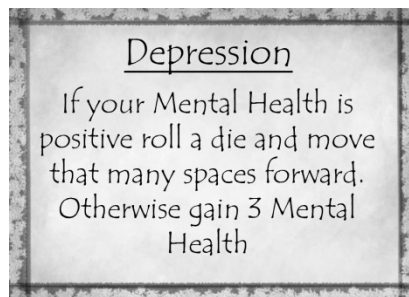
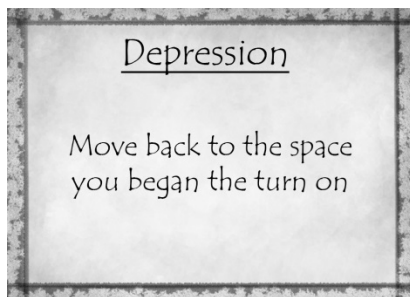
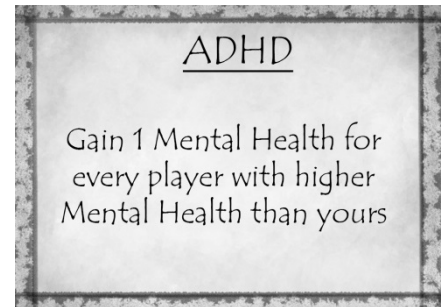
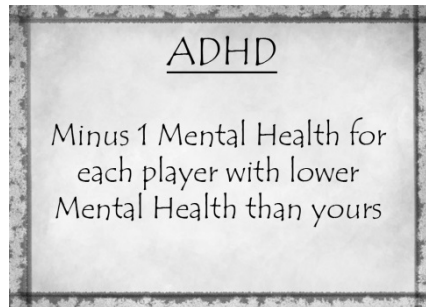
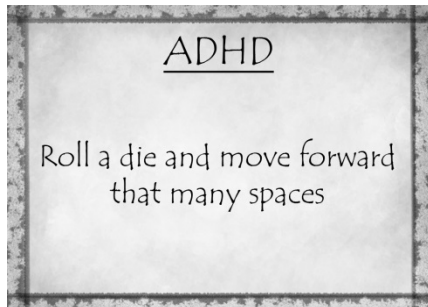
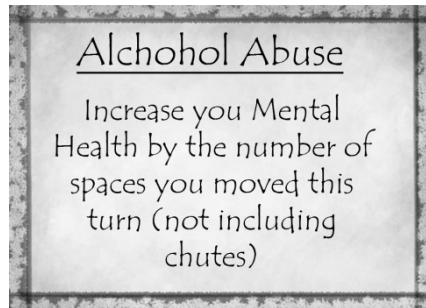
- When any player reaches the end of the board, all other players that have already reached the end of the board gain 1 mental health.

- While in the end space, players continues to draw cards for their turns as usual.

Appendix B: Board design



Appendix C: Card designs



General Anxiety

Minus 1 Mental Health for every player ahead of you on the board

General Anxiety

Move to the space behind the player with the lowest mental health among the other players

General Anxiety

Shuffle your deck and draw another card

Ace a Test

+2 to Your Mental Health



Ace a Group Project

+2 to Your Mental Health



Ace a Difficult Class

+2 to Your Mental Health



ADHD

Trip Down Some Stairs

Go to the Hospital Space in your Quadrant on the board.



Caught Drinking Under Age

Go to the Jail Space in your Quadrant on the board.



Get Ahead On Classwork

+2 to Your Mental Health



Alcohol Poisoning

Go to the Hospital Space in your Quadrant on the board.



Caught Driving under the Influence

Go to the Jail Space in your Quadrant on the board.



ALCOHOLISM

Pull an All Nighter

-2 to Your Mental Health



Argue With Parents Over the Phone

-3 to Your Mental Health



Never Had a Hangover
This Bad
-4 to Your Mental Health



Attend Class
While Hungover
-3 to Your Mental Health



Contact the
TA For a
Difficult Class

+2 to Your
Mental Health

Your Pet
Goldfish Dies

-3 to Your
Mental Health



Make the
Dean's List

+3 to Your
Mental Health



Decline
Upperclassman's Offer
to buy you Alcohol

+2 to Your Mental Health

Forget to take
Medication

Go to the
Hospital Space in
your Quadrant
on the board.



Caught Torrenting
Games On Campus-net

Go to the Jail
Space in your
Quadrant on
the board.



DEPRESSION

Get Distracted
Trying to Multitask

-2 to Your
Mental Health

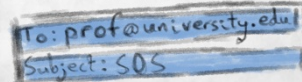
A Drinking Game
Goes Poorly

-3 to Your Mental Health



Email Your Professor
For Help With Class

+2 to Your Mental Health



Leave an
Essay in the
Printer

-1 to Your
Mental Health



Fail a Course

-4 To Your
Mental Health



Fail a
Pop- Quiz

-2 to Your
Mental Health



Fight With a Friend at a Party
-3 to Your Mental Health



Finish a Project Early
+2 to Your Mental Health



Forget to Set Your Alarm
-1 to Your Mental Health



Forget an Umbrella on a Stormy Day
-1 to Your Mental Health




Forget Breakfast on Test Day
-1 to Your Mental Health




Forget to do Homework
-3 to Your Mental Health



Trouble Finding Your Meds in the Morning
-4 to Your Mental Health



Forget to Print Homework
-1 to Your Mental Health



Forget to Finish a Take Home Exam
-4 to Your Mental Health



Take Care of Your Friend's Dog
+3 to Your Mental Health



Friends Go to a Movie Without You
-4 to Your Mental Health



Caught The Flu
Go to the Hospital Space in your Quadrant on



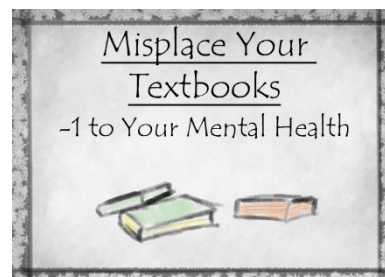
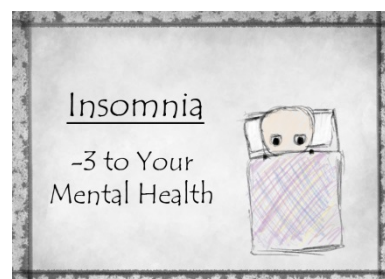
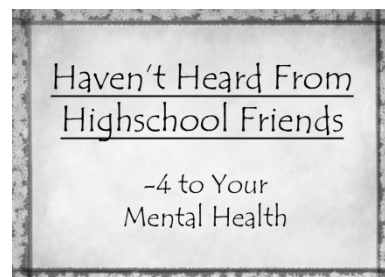
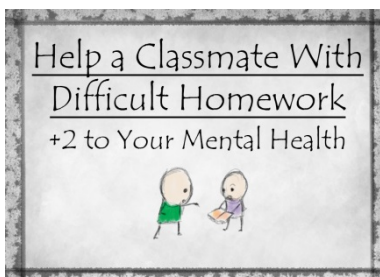
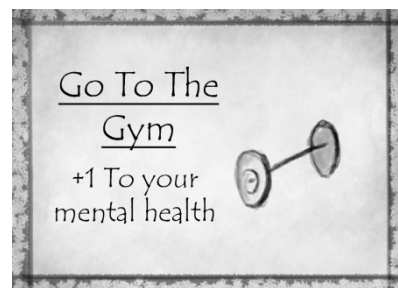
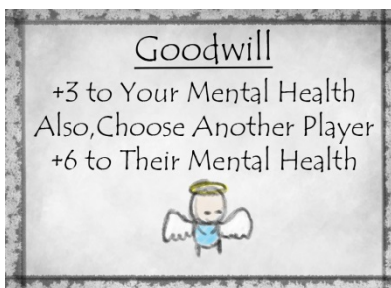
Get in a Fight at a Bar
Go to the Jail Space in your Quadrant on the board.

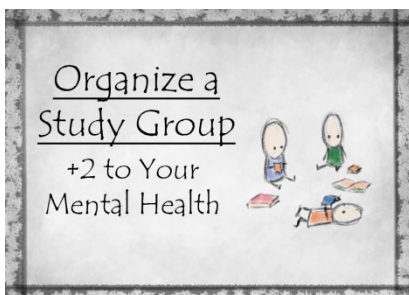
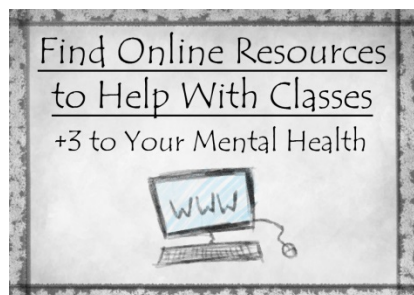
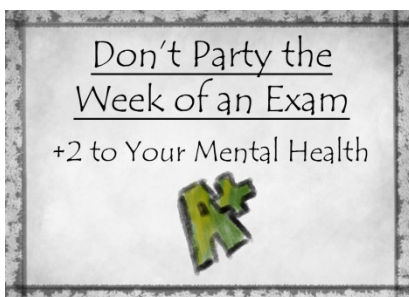
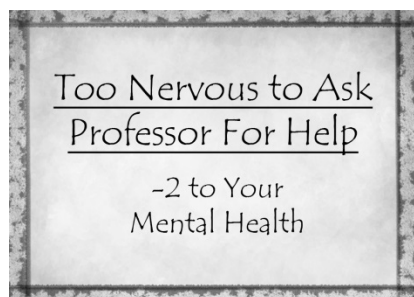
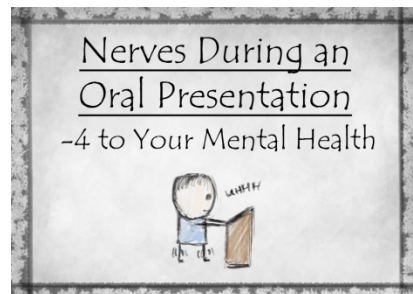


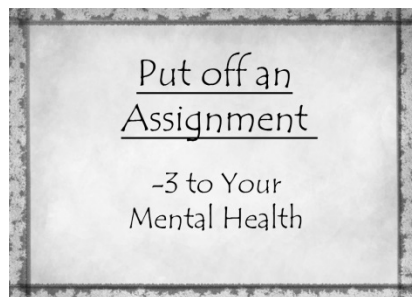
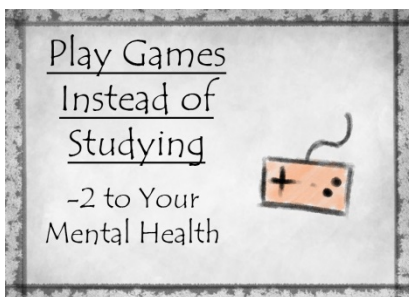
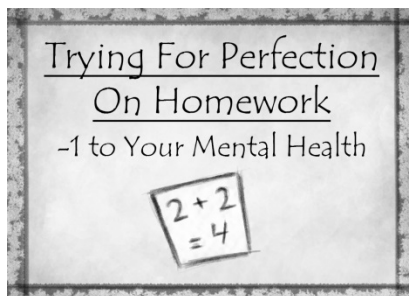
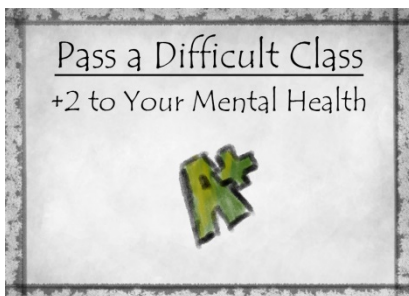
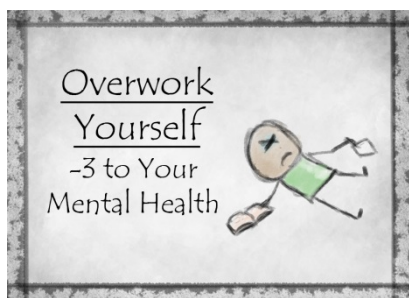
GENERAL ANXIETY

Get Ahead On Some Reading
+2 to Your Mental Health









Roommate Plays Music Too Loud
-2 to Your Mental Health



Roommate's Alarm Wakes You Up Early
-1 to Your Mental Health



Set Up a Daily Routine
+3 to Your Mental Health



Suffer a Panic Attack
Go to the Hospital Space in your Quadrant on the board.



Tried to Sneak a Meal From the Dining Hall
Go to the Jail Space in your Quadrant on the board.



Get a Scholarship
+3 to Your Mental Health



Hear One of Your Grandparents is Sick
-4 to Your Mental Health



Sit Near the Front of Class
+1 to Your Mental Health

Fall Asleep In Class
-2 to Your Mental Health



Get to Bed at an Appropriate Time
+3 to Your Mental Health



Sleep Through Your Alarm
-3 to Your Mental Health



Sleep Through Breakfast
-2 to Your Mental Health




SOCIAL ANXIETY

Have Soda Instead of Alcohol at a Party
+3 to Your Mental Health



Spite
-6 to Your Mental Health
Also, Choose Another Player
-3 to Their Mental Health



Study an Extra
Chapter Before Bed
+2 to Your Mental Health



Attend a
Study Group

+3 to Your
Mental Health



Spend a Night
Studying Instead of
Partying

+3 to Your
Mental Health



Switch Rooms to
Live With Friends
+3 to Your Mental Health

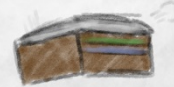


Write A
Term Paper
Last minute

-3 to Your
Mental Health



Having Trouble
Budgeting
-2 to Your Mental Health



Trouble Finding
a Roommate
for Next Year

-2 to Your
Mental Health

Stayed Up
Way Too
Late

-2 to Your
Mental Health



Video Chat With
People From Home

+2 to Your
Mental Health

Waste Too Much
Time On the Internet
-3 to Your Mental Health



Appendix D: Playtest notes

Playtest Dec 9 Notes

- ~ Still no way to determine who goes first
- ~ Effects should not kick in first turn or on other players turns
- ~ Social anxiety can be difficult to decipher as well still
- ~ Defuse more appropriately → "Next to you"
- ~ Negative mental health → whatever Turbin was taking about
- ~ "Sliders"
- ~ "Do not shuffle cards"
- ~ Groundwork/Sprite vs. ADHD
- ~ Sprite written wrong in instructions
- ~ Social Anxiety and exam spaces.
- ~ Retake exams when failing tests on them?
- ~ When one maxes, are there games?
- ~ Put cards at bottom instead of shuffle
 - specific cards that shuffle?
- ~ "Failing an exam" during break?
- ~ (certain) things not coming into play due to too high MH
- ~ ADHD also not happening more than once per turn.
- ~ Increase MH cap / more -MH cards.
- ~ Fuel space.
- ~ Do you get card/still have turns.

- Confused by social anxiety
- Constant shuffling slightly annoying
- remember to mark ^{more} cards as keepers
- bullets instead of sentences
- ADHD overpowered
- ambiguous language "for x turns"
- meta rule need map/min
- mark cards if unusable.
- Too many drugs?
- Greg no relationship
- need more words (instead of/in addition)
- Tan sounds smart ^{at 20 min}
- clarify can't happen without (x card)
- fly through year
- directions for way to go?
- Summer deck
- Summer space

start not clear

(when used?)

dog too long? repeat or temp not clear

player mats complicated?

instructions unclear (player mats not in
social anxiety still unclear needs ^{instruction}

card types not obvious

fewer
(more?) words

no polygamy *

lowest not yourself for goodwill

emulation effects? not clear

12 make not big enough

order of operations move, draw, place affect
social anxiety can share exam space no matter what
Too many +?

exams not repeated

at max do you gain?

too much shuffle

Winter break better labeled

too easy for ties?

exams are useful

final space

do you still have turns

" " still draw on last

all start rule?

1 goodwill/spite per turn (when?)

turn order for player?

discard versus keep?

effects don't trigger first turn?

overwhelmingly positive

exam interactions?

half mental health?

too fast?

spite/goodwill wording (other player)

extra effects on cards after ending

too positive

remove from game? after use

exam double bids/goods

Sam is an idiot

homework stress not make sense at end

pets OP

limit to spite/goodwill?

game ends as you hit finish?

pet versus pet?

discard pile?

more negative

exams more significance
larger scale
screwing other players more?
tiebreaker
world screws everyone
balance